

Event Correlation Classes

1. Compression	$[a, a, \dots, a]$	\longrightarrow	a
2. Filtering	$[a, p(a) < H]$	\longrightarrow	\emptyset
3. Suppression	$[a, C]$	\longrightarrow	\emptyset
4. Count	$[n \times a]$	\longrightarrow	b
5. Escalation	$[n \times a, p(a)] \longrightarrow$	$a, p'(a), p' > p$	
6. Generalization	$[a, a \text{ subset } b]$	\longrightarrow	b
7. Specialization	$[a, a \text{ superset } b]$	\longrightarrow	b
8. Temporal Relation	$[a \text{ T } b]$	\longrightarrow	c
9. Clustering	$[a, b, \dots T, \text{ and, or, not}]$	\longrightarrow	c

KEY

a, b, c	- Events	\times	- multiplication
\emptyset	- empty (no event)	$<$	- less
C	- contextual information	$>$	- more
n	- integer		
$p(a)$	- parameter of event a		
H	- threshold		
T	- temporal relation		
and, or, not - logical operators			

FIG. 1

Hierarchy of Services

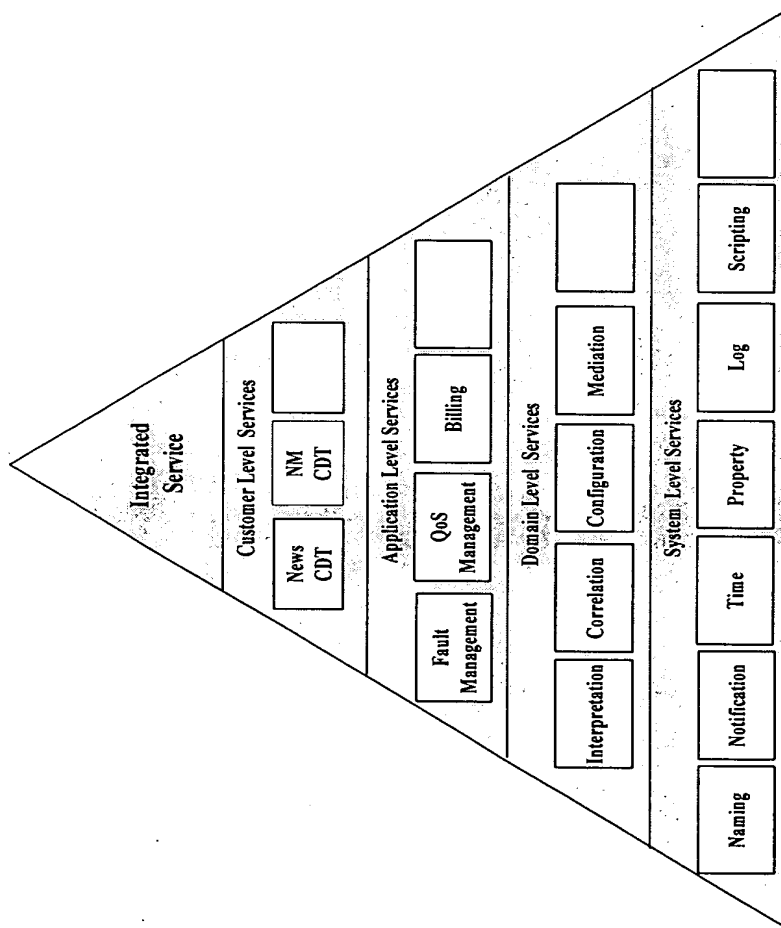


FIG. 2

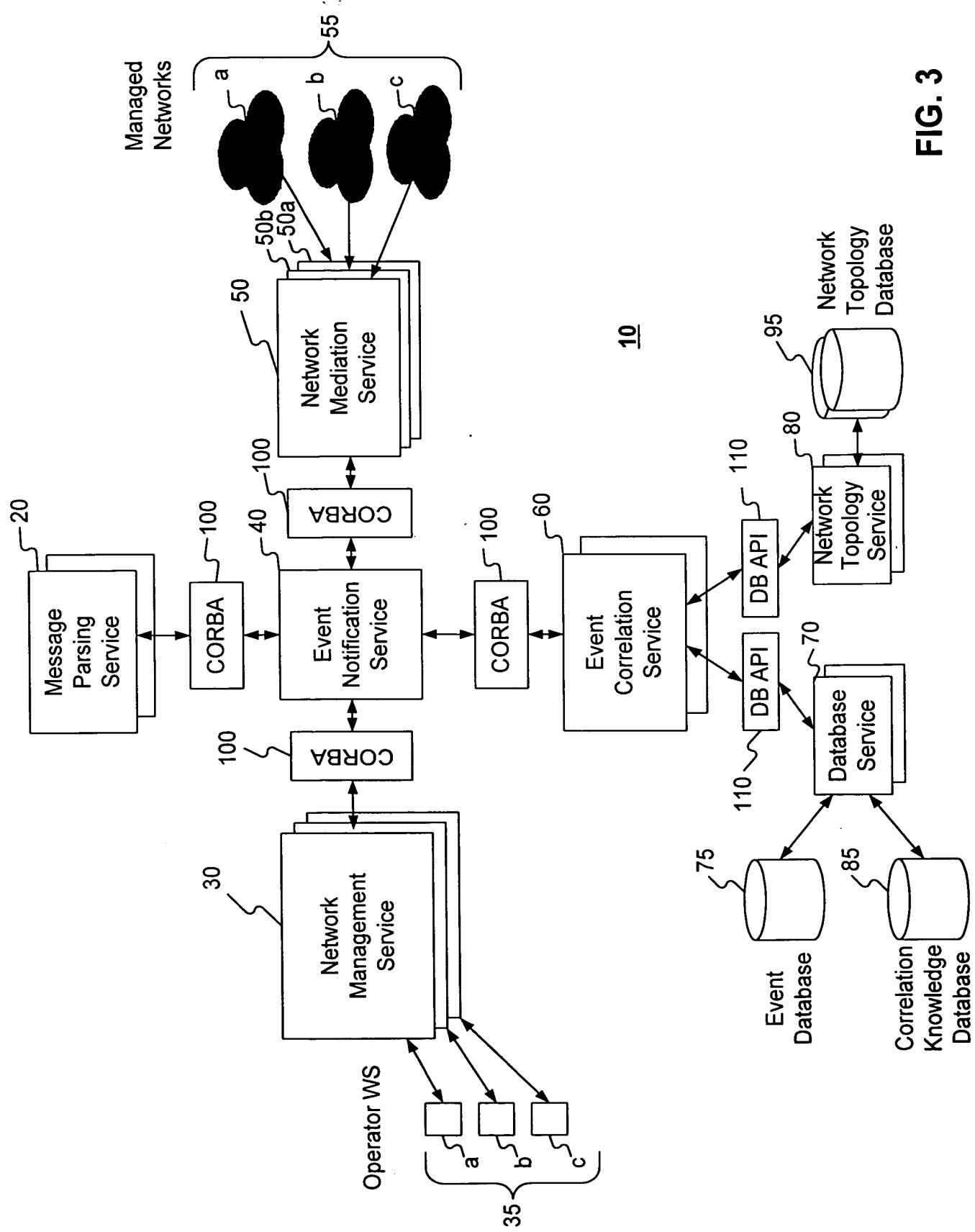


FIG. 3

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graph TD; Start([Start]) --> 120[Event Notification Service Receives an Unparsed Message from Network Mediation Service or Network Management Service]; 120 --> 125[Event Notification Service Passes Message to Message Parsing Service]; 125 --> 130[Message Parsing Service Passes Parsed Message Back to Event Notification Service]; 130 --> 132{Message Conclusively Interpreted?}; 132 -- N --> 140[Event Notification Service Passes the Message to the Event Correlation Service]; 140 --> 145[Event Correlation Services Passes Message to Event Notification Service]; 145 --> 132; 132 -- Y --> 135[Event Notification Service Passes the Message to the Network Management Service]; 135 --> End([End]);
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The flowchart illustrates the process of message parsing and correlation. It begins with a 'Start' terminal, leading to a process box (120) where the 'Event Notification Service Receives an Unparsed Message from Network Mediation Service or Network Management Service'. This is followed by a process box (125) where the 'Event Notification Service Passes Message to Message Parsing Service'. Then, a process box (130) shows the 'Message Parsing Service Passes Parsed Message Back to Event Notification Service'. A decision diamond (132) asks 'Message Conclusively Interpreted?'. If the answer is 'N' (No), the flow goes to a process box (140) where the 'Event Notification Service Passes the Message to the Event Correlation Service', then to a process box (145) where 'Event Correlation Services Passes Message to Event Notification Service', and loops back to the decision diamond (132). If the answer is 'Y' (Yes), the flow proceeds to a process box (135) where the 'Event Notification Service Passes the Message to the Network Management Service', and finally to an 'End' terminal.

FIG. 4

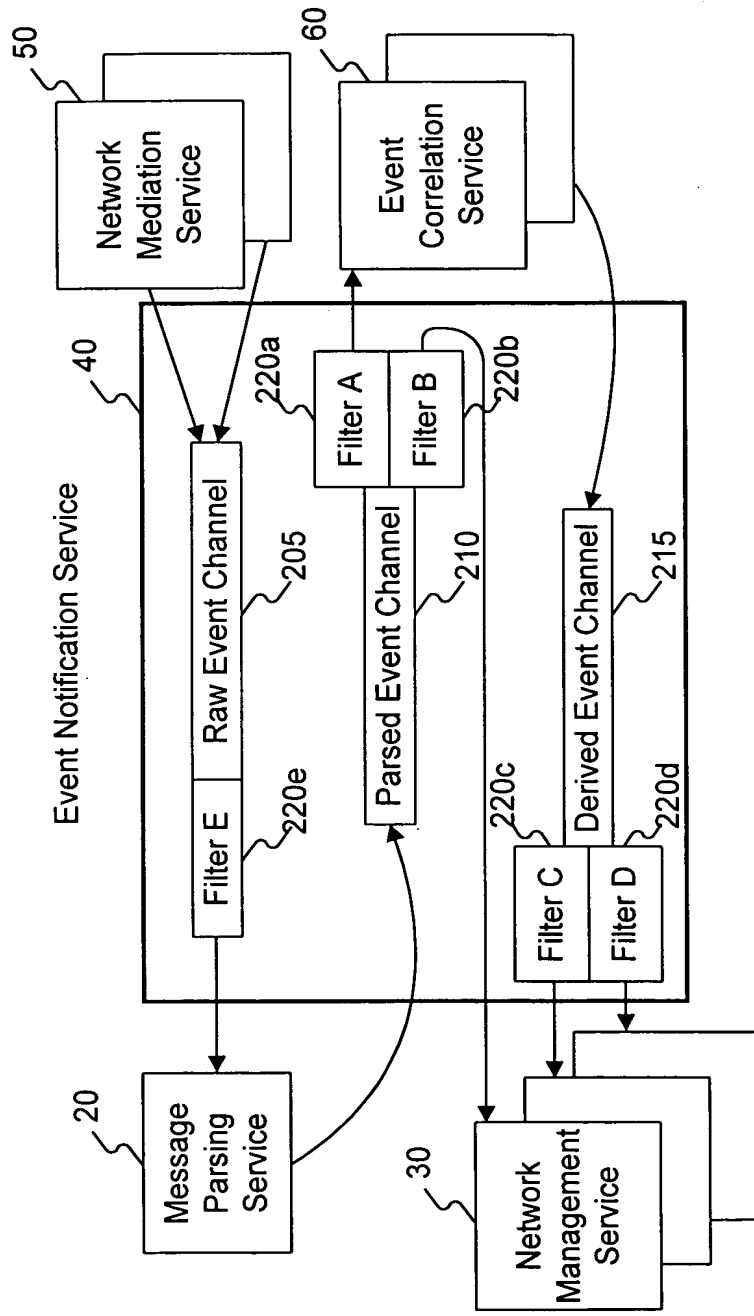


FIG. 5

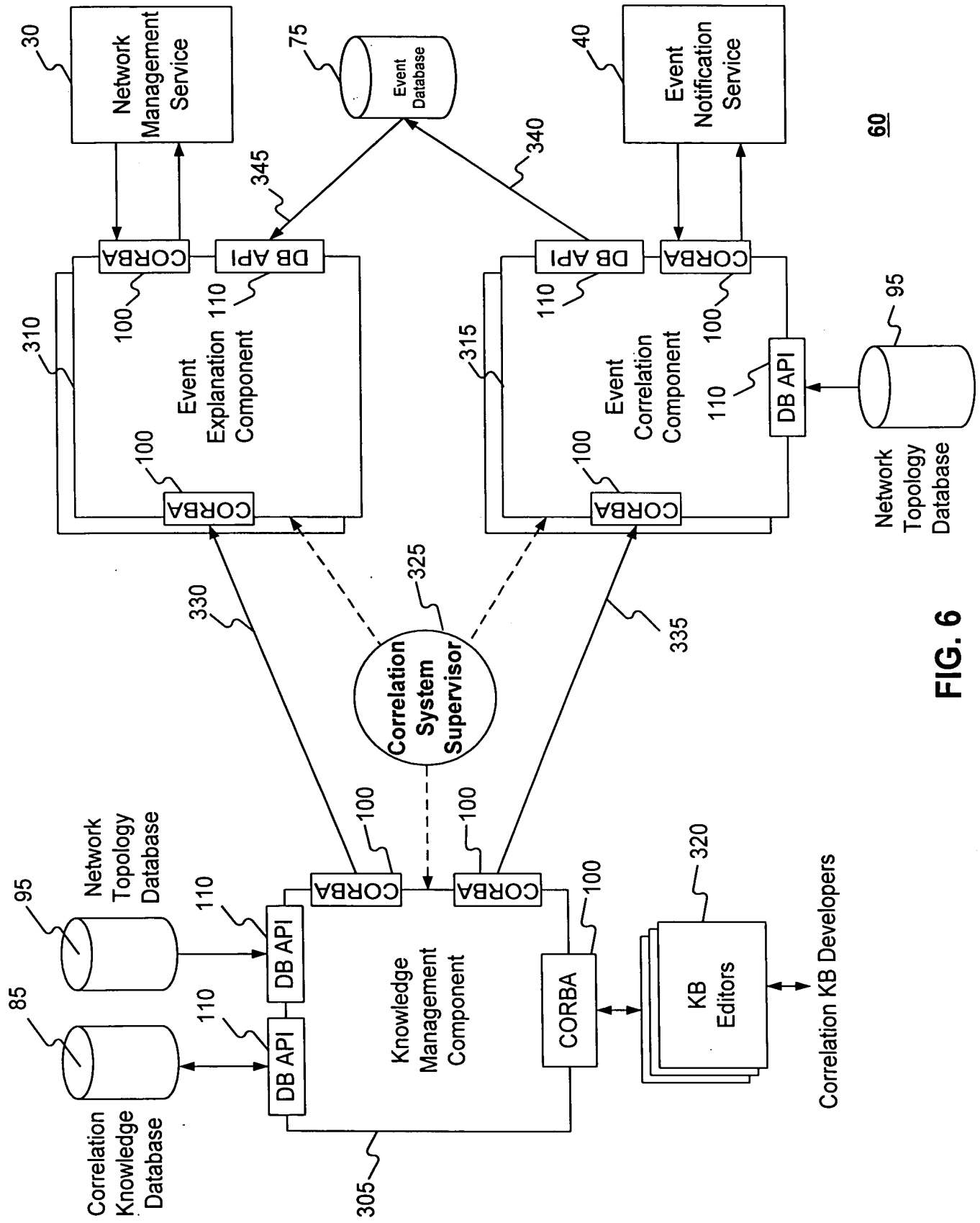


FIG. 6

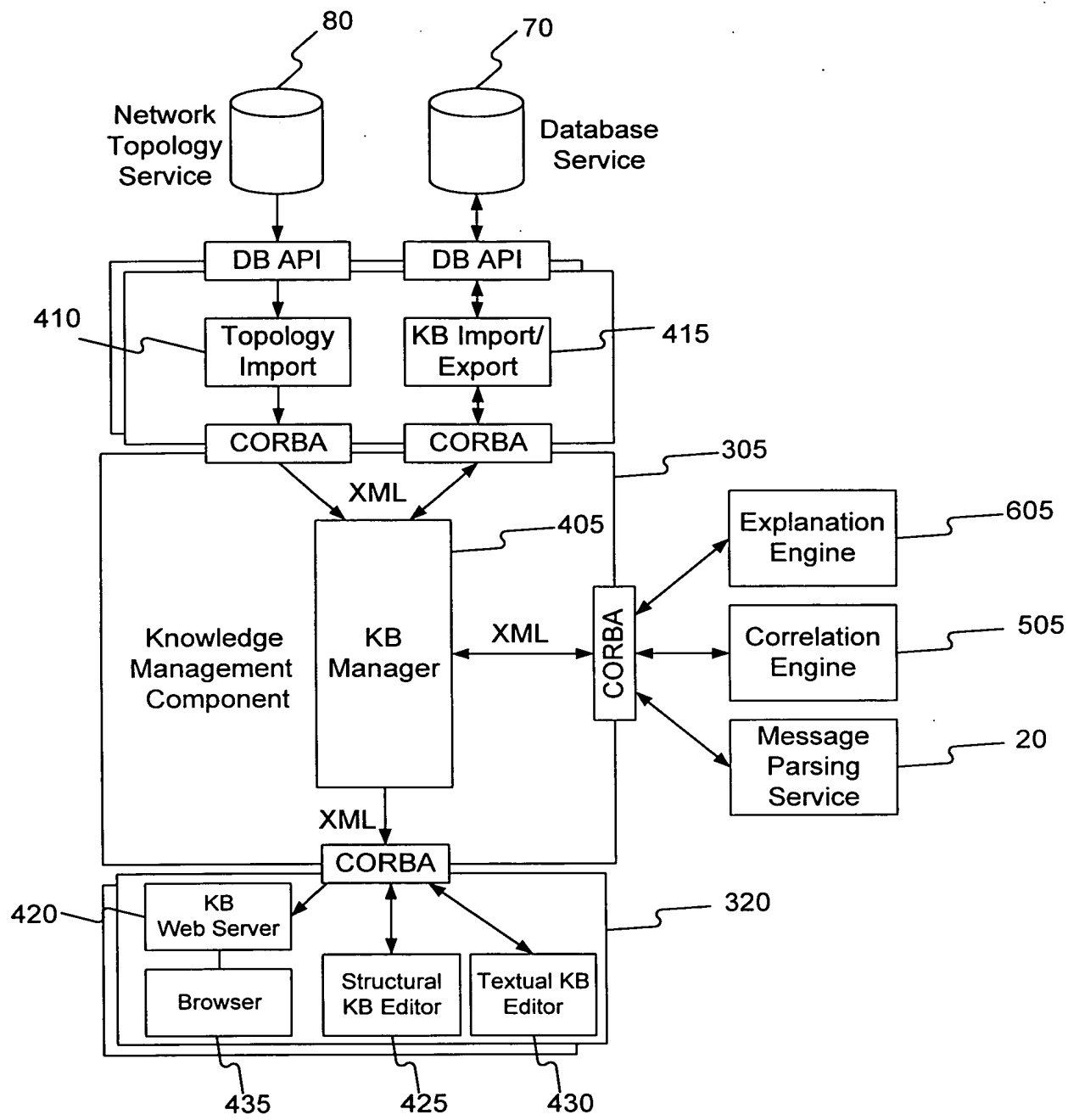


FIG. 7

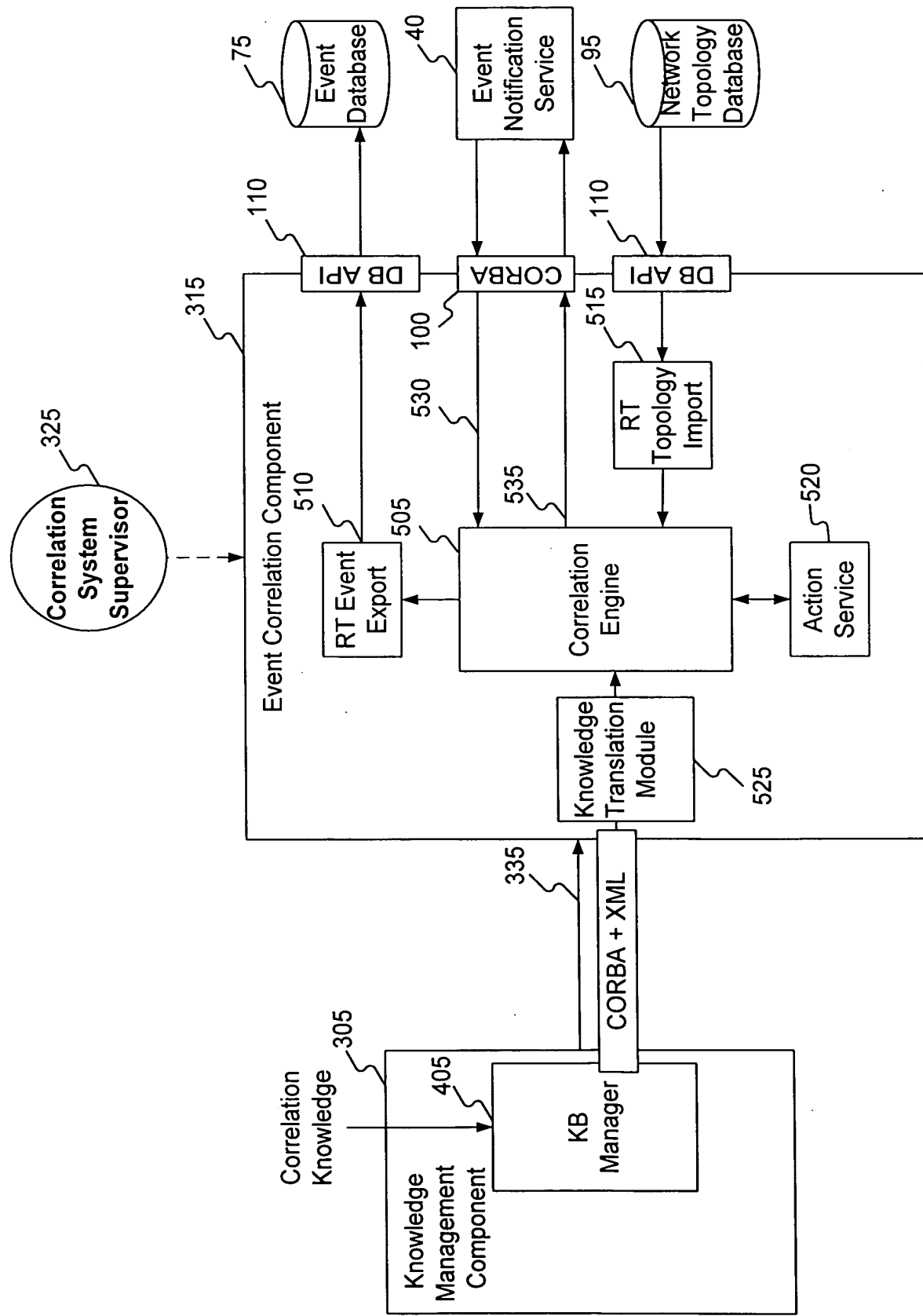


FIG. 8

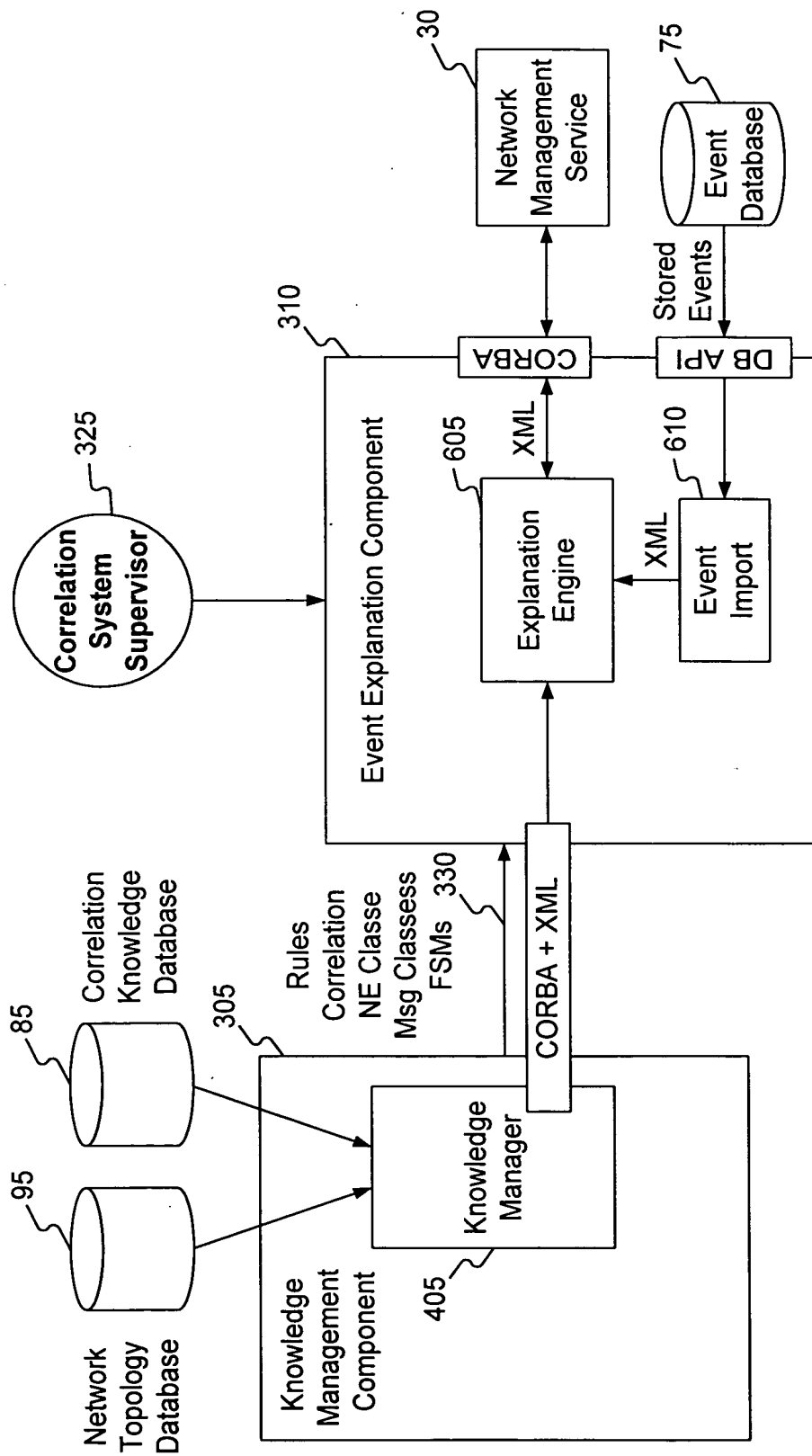


FIG. 9

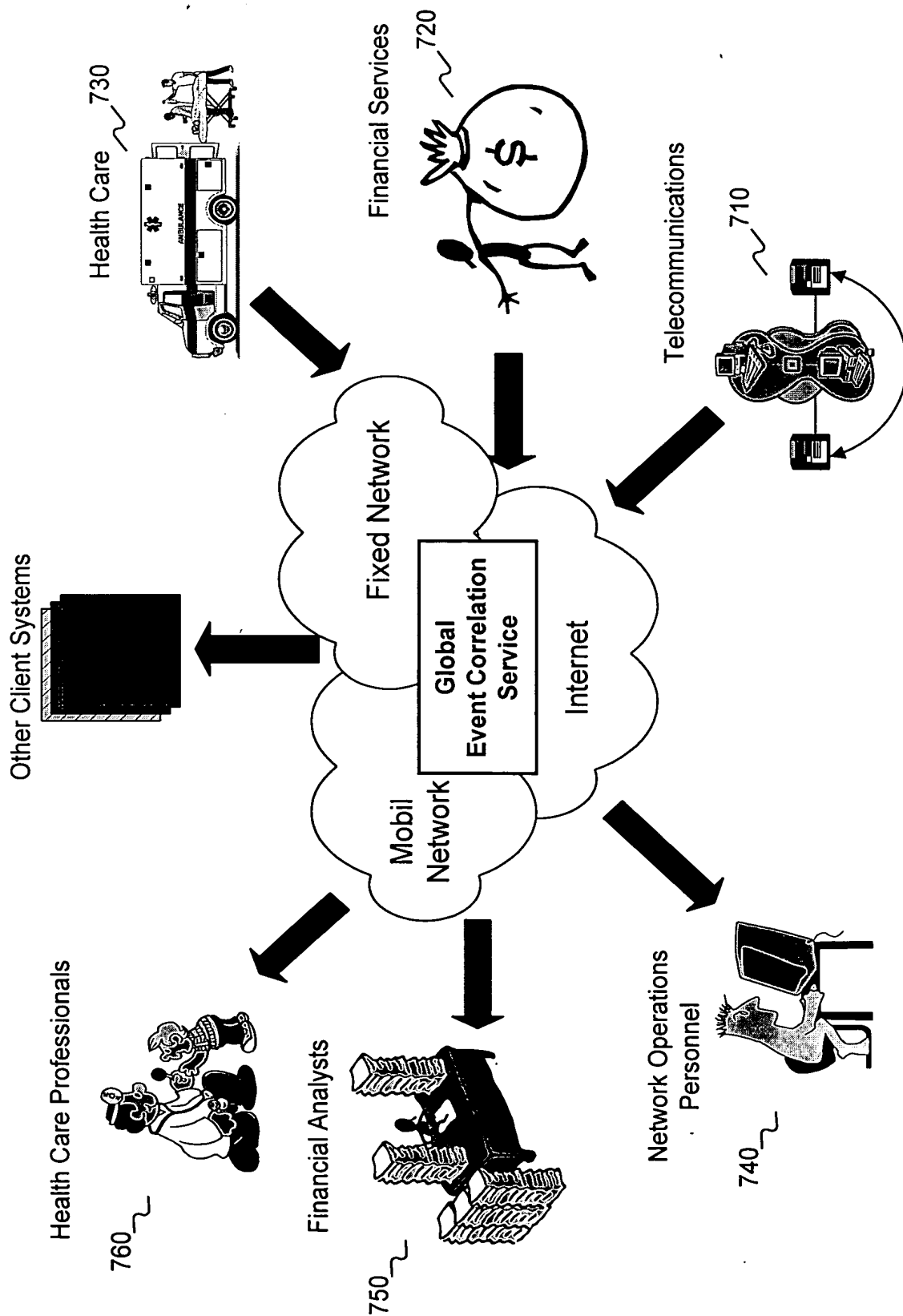


FIG. 10